

REMARKS

Responsive to the Final Office Action dated July 1, 2003, Applicant has amended independent Claim 1. Claims 11-38 have been withdrawn from consideration as being drawn to a nonelected species. Accordingly, Claims 1-10 are pending for consideration, with Claim 1 being independent.

I. Summary of the Claims

Independent Claim 1, as amended, recites a solid electrolyte battery comprising a positive electrode, a negative electrode disposed opposite to the positive electrode, a separator disposed between the positive electrode and the negative electrode, and at least one solid electrolyte disposed between the positive electrode and the separator and between the separator and the negative electrode. The solid electrolyte comprises a mixture of a polymer and a swelling solvent present in a ratio of from about 1:5 to about 1:10. The separator comprises a polyolefin porous film having a thickness of from about 5 μm to about 15 μm and a volume porosity of from about 25% to about 60%. The impedance in the solid electrolyte battery is greater than the impedance realized at room temperature when the temperature of the solid electrolyte battery is from about 100°C to about 160°C.

II. The § 103(a) Rejection

Claims 1-10 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,716,421 to Pendalwar et al., in view of U.S. Patent No. 6,322,923 to Spotnitz et al.. For the following reasons, Applicant respectfully submits that the present invention is not obvious under § 103(a) and requests reconsideration and withdrawal of this rejection.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to

combine reference teachings. Second, there must be a reasonable expectation of success.

Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Pendalwar does not teach or suggest the claimed invention. Pendalwar does not teach or suggest a solid electrolyte battery that has a polyolefin film separator having a thickness of from about 5 μm to about 15 μm as well as a volume porosity of from about 25-60%. Pendalwar also does not teach or suggest a solid electrolyte battery having an impedance greater than the impedance realized at room temperature when the temperature of the solid electrolyte battery is from about 100°C to about 160°C. To the contrary, Pendalwar teaches a multilayered separator comprising two or more different polymers. In fact, Pendalwar describes such a multilayered or sandwiched separator as being advantageous in that it assures a continued electrical and physical barrier between the electrodes. Pendalwar also fails to teach or suggest a solid electrolyte battery wherein the solid electrolyte is comprised of a mixture of a polymer and a swelling solvent present in a ratio of from about 1:5 to about 1:10.

In the section entitled "Examples," Pendalwar describes the preparation of a cell containing a single layer of Celgard® 2300, a conventional polypropylene material. However, this example is not of a preferred embodiment, but of a comparative example. In Fig. 5 entitled "Results for the trilayer and the conventional polypropylene materials," Pendalwar states that "shutdown" in the trilayer occurs at a much lower temperature (i.e., 135°C). *Column 6, lines 15-19*. This "shutdown" temperature is significantly lower than the temperature of 165°C that Pendalwar teaches is the temperature at which conventional polypropylene begins to melt.

Finally, prima facie obviousness requires that there must be a reasonable expectation of

success when prior art is modified or combined. In the present application, there is no reasonable expectation of success in achieving the invention as claimed when the cited reference is modified. As discussed above, the cited reference does not contain *all* the elements of Applicants' independent claim. Unless all the elements are taught by the reference, there can be no success in modifying it

Thus, at the time the present invention was made, neither U.S. Patent No. 5,716,421 nor U.S. Patent No. 6,322,923 teach or describe *all* of the limitations claimed by Applicant in its independent claim and the claims depending therefrom. Accordingly, independent claim 1 and the claims depending therefrom are nonobvious under § 103 (a).

III. Conclusion

Accordingly, Applicant respectfully submits that the present application is now in condition for allowance and courteously solicits the same. If the Examiner should have any questions regarding the foregoing, she is encouraged to call the undersigned at 816.460.2516. Should any fees be necessitated by this response, the Commissioner is hereby authorized to deduct any such fees from Deposit Account No. 19-3140.

Respectfully submitted,

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